

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. (Currently Amended) A production machine system comprising:
~~associated machine components including~~ a drive,
a control unit for controlling said drive, and
detectors for ~~detecting~~ determining at least a first and ~~[[a]]~~ second variables ~~fed to said control unit which are~~ generated during the operation of the machine, said variables fed to said control unit, said ~~wherein the~~ control unit ~~comprising~~ comprises a first setpoint determination unit to receive ~~receiving~~ said first variable and generate ~~for generating~~ a first setpoint, a second ~~setpoint~~ determination unit to receive ~~receiving~~ a first internal variable derived from said first variable and generate ~~for generating~~ an intermediate setpoint, ~~wherein the said~~ intermediate setpoint ~~[[is]]~~ corrected by ~~said the~~ second variable to generate a second setpoint, ~~and wherein~~ a machine control unit receives ~~receiving~~ said first and second setpoints to generate ~~for generating~~ a machine control parameter.

2. (Currently Amended) A production machine according to Claim 1, wherein the drive is selected from the group consisting of hydraulic, electric and a combination of hydraulic and electric drives.

3. (Currently Amended) An injection molding machine for the manufacture of plastic parts comprising:
a motor driven advancing screw for driving the injection and generating an injection pressure, ~~said machine further comprising~~

means for detecting and registering the injection pressure and position of said screw as measured variables during operation, and

control means generating a first setpoint from said position variable by a speed/displacement profile and a first intermediate pressure variable from said position variable by a pressure profile, ~~wherein~~ said first intermediate pressure variable ~~[[is]]~~ corrected by said pressure variable to generate a second setpoint, wherein said first and second setpoints are fed to a machine control unit for generating a motor control parameter for said motor.

4. (Withdrawn) The injection molding machine according to claim 3 further comprising a mold having at least two positionally dependent variables, wherein at least one speed/displacement profile variable can be predetermined as a positionally dependent setpoint value which can be counteracted if a mold closing pressure/displacement profile variable is exceeded.

5. (Withdrawn) The injection molding machine according to claim 4 further comprising an ejection mechanism in association with the mold, wherein said mechanism has at least two positionally dependent variables and wherein at least one speed/displacement profile variable can be predetermined as a positionally dependent setpoint valve which can be counteracted if an ejecting force/displacement profile variable is exceeded.

6. (Currently Amended) A ~~The~~ production machine system according to claim 1, wherein the drive advances a screw for driving an injection and generating an injection pressure, and wherein the first variable is a position of said drive and the second variable is said injection pressure.

7. (Currently Amended) A ~~The~~ injection molding machine system according to claim 3, wherein the first pressure profile is a pressure/displacement profile.

8. (Previously Presented) ~~A~~ The injection molding machine system according to claim 7, wherein the speed/displacement profile and/or the pressure profile can be predetermined.

9. (Withdrawn) The production machine according to claim 1 comprising the machine components of an industrial press.

10. (Previously Presented) A method for the open-loop control of a production machine comprising the steps of:

- determining a first setpoint from at least a first variable;
- determining an intermediate setpoint from a first internal variable derived from said first variable,
- correcting said intermediate setpoint with a second variable to generate a second setpoint; and
- generating a machine control parameter from said first setpoint and said second setpoint.

11. (Previously Presented) The method according to claim 10, wherein the first setpoint is determined by a speed/displacement profile, and the first internal variable is determined by a pressure/displacement profile.

12. (Withdrawn) A method according to claim 11 wherein the injection-molding machine further comprises a mold the positional determination of which is a function of the closing/opening speed and for the opening and/or closing pressure of the mold.

13. (Withdrawn) A method according to claim 12 wherein the mold further comprises an ejection mechanism, the positional determination of which is a function of the speed and/or ejection force of the ejection mechanism.

14. (Canceled)
15. (Canceled)
16. (Canceled)
17. (Canceled)
18. (Withdrawn) The method according to claim 10 for use with an industrial press.
19. (Currently Amended) A production machine system according to claim 1, further comprising a further detector for determining a third variable, wherein the second setpoint determination unit comprises a first unit to generate ~~for generating~~ said first internal variable and a second unit to generate ~~for generating~~ a second internal variable from said ~~[[a]]~~ third variable, and a select unit, controlled by a threshold derived from said first variable, ~~for selecting~~ to select said first or second internal variable to generate ~~for generating~~ said intermediate setpoint.
20. (Currently Amended) A production machine system according to claim 19, further comprising a subtraction unit for subtracting said second variable from said selected first or second internal variable, and a function unit for generating said second setpoint receiving an output signal from said subtraction unit.
21. (Currently Amended) A production machine system according to claim 20, wherein the select unit further selects a first or second parameter set which is fed to said function unit.

22. (Currently Amended) A ~~The~~ production machine system according to claim 1, further comprising a mold, wherein the drive positions of said mold and ~~wherein~~ the first variable is a position of said mold and the second variable is a mold closing pressure.

23. (Currently Amended) A ~~The~~ production machine system according to claim 1, further comprising an ejection mechanism, wherein the drive controls an ejection and ~~wherein~~ the first variable is a position of said ejection mechanism and the second variable is an ejecting force.

24. (Currently Amended) A ~~The~~ method according to claim 11, wherein the first variable is the position of a mold₁ and the first setpoint is a function of the closing/opening speed₁ and the second variable is a opening and/or closing pressure of the mold.

25. (Currently Amended) A ~~The~~ method according to claim 11, wherein the first variable is the position of an ejection mechanism of a mold, the first setpoint is a function of the speed of the ejection mechanism₁ and the second variable is an ejection force of the ejection mechanism.

26. (Currently Amended) A ~~The~~ method according to claim 10, further comprising the steps of:

- generating a second internal variable from a third variable;
- selecting either said first or second internal variable depending on a threshold derived from said first variable; and
- subtracting said second variable from said selected first or second internal variable to generate said second setpoint.

27. (Currently Amended) A ~~The~~ method according to claim 26, further comprising the step of feeding said subtracted variable to a function unit for generating said second setpoint.

28. (Currently Amended) A ~~The~~ method according to claim 26, wherein said function unit is controlled by a parameter and wherein the parameter is selected by said threshold.

29. (Currently Amended) An ~~The~~ injection molding machine system according to claim 3, further comprising a further detector for determining a time variable, wherein the control means comprises a first unit for generating said first intermediate pressure variable, ~~and~~ a second unit for generating a second intermediate pressure variable from said time variable, and a select unit controlled by a threshold derived from said position variable for selecting said first or second intermediate pressure variable for generating said intermediate setpoint.

30. (New) A process machine control system comprising:
a control unit,
a group of sensors in communication with said control unit and various components of the process, said sensors comprising a screw position sensor, optionally a heat sensor to sense the temperature of heating elements located around an area of the screw, an injection pressure sensor to sense the pressure at an end of the screw, a mold holder position sensor, a mold ejector position sensor, and a mold holder motor sensor, wherein said control unit, based on signals from said sensors, controls and adjusts the current to a motor driving a screw.